

WHAT IS CLAIMED IS:

1. An electrical module assembly, comprising a module housing (1) having a compression-proof wall (2); and an electrical module (3) located in the module housing (1) and having an explosion-proof contactless switch (4) including movable switching means (7) and an actuation element (6) for actuating the switching means (7) from outside, and a sensor electronics (8) for sensing movement of the switch means (7), the sensory electronics (8) being spatially separated from the switching means (7) by a separation section (9) of the wall (2) of the module housing (1).
2. An electrical module assembly according to claim 1, wherein the separation section (9) forms a pot-shaped pocket 10.
3. An electrical module assembly according to claim 2, wherein the pot shaped pocket (10) projects into an interior of the module housing (1).
4. An electrical module assembly according to claim 2, wherein the pot-shaped pocket (10) is formed as an axially symmetrical pocket.

5. An electrical module assembly according to claim 1, wherein the actuation element (6) is formed as a rotatable body.
6. An electrical module assembly according to claim 5, wherein the actuation element (6) pivots within an angular region from 30° to 180° and is limited from opposite sides.
7. An electrical module assembly according to claim 3, wherein the switching means (7) is arranged adjacent to an end surface of the actuation element (6) associated with the pocket (10).
8. An electrical module assembly, according to claim 7, wherein the switching means (7) is arranged radially outwardly of the end surface of the actuation means, and wherein the sensory electronics (8) is arranged in the interior of the module housing (1) on an outer surface of the pocket (10).
9. An electrical module assembly according to claim 1, wherein the sensory electronics (8) includes at least one Hall-sensor (12a, 12b), and wherein the switching means (7) is formed as a permanent magnet (11a, 11b) a magnetic field (H) of which is associated with the Hall-sensor (12a, 12b).

10. An electrical module assembly according to claim 9, wherein the Hall-sensor (12a, 12b) is formed as a differential Hall-sensor which is slightly offset relative to the permanent magnet (11a, 11b) in an actuation direction of the permanent magnet (11a, 11b).
11. An electrical module assembly according to claim 9, wherein the switching means (7) is formed by two opposite, antiparallel oriented, permanent magnets (11a, 11b), and wherein the sensory electronics includes two Hall-sensors (12a, 12b) associated with respective permanent magnets (11a, 11b).
12. An electrical module assembly according to claim 11, wherein the two Hall-sensors (12a, 12b) are seriesly connected.
13. An electrical module assembly according to claim 9, wherein the module housing (1) is formed of a non-ferromagnetic material.
14. An electrical module assembly according to claim 13, wherein the module housing (1) is formed of an aluminum alloy.